

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) An apparatus for continuous casting of molten metals, the molten metal being continuously cast using a casting mold, said apparatus comprising:

electromagnets each comprising an iron core and a coil wound over said iron core, said electromagnets being arranged in a facing relation on opposite sides of said mold along a transverse width thereof to lie side by side along a longitudinal width of said mold; and

means a single-phase AC current power supply connected to each coil for supplying a single-phase AC current to each coil.

2. (original) The apparatus according to claim 1, wherein said iron core comprises individual single iron cores separate from each other, or a comb-shaped iron core having a comb-teeth portion over which the coils are wound.

3. (original) The apparatus according to claim 1, wherein said iron core comprises a comb-shaped iron core having a

comb-teeth portion over which said coils are wound and a root portion over which a second coil is wound, and further comprising a means for supplying a DC current to the second coil.

4. (currently amended) An apparatus for continuous casting of molten metals, the molten metal being continuously cast using a casting mold, said apparatus comprising:

a coil supplied with a DC current for producing a DC magnetic field and a coil supplied with a single-phase AC current for producing a non-moving, vibrating magnetic field, both said coils being wound over each of common iron cores,

said iron cores being arranged around said mold such that a direction of the magnetic fields produced by said coils is aligned with a transverse width of said mold, wherein,

said single-phase AC current is supplied from a single-phase AC current power supply connected to the coil.

5. (original) The apparatus according to claim 4, wherein magnetic poles of said iron core are arranged in at least one pair to face each other above or/and below an ejection port of an immersion nozzle.

6-9. (canceled)

10. (currently amended) An apparatus for continuous casting of molten metals, the molten metal being continuously cast using a casting mold, said apparatus comprising:

a continuous current AC power supply;

means for applying magnetic fields at positions above and below an ejection port of an immersion nozzle; and

a first coil, connected to the continuous current AC power supply, for producing an AC magnetic field moving in a longitudinally symmetrical relation from opposite ends to a center of said mold along a longitudinal width thereof, and a second coil for producing a DC magnetic field, both said first and second coils being wound over each of common iron cores,

said iron cores being arranged on opposite sides of said mold along a transverse width thereof such that a direction of the magnetic fields produced by said coils is aligned with the transverse width of said mold.

11. (previously presented) The apparatus according to claim 1, wherein a phase difference between a pair of adjacent coils on the same side of the mold is 0° or 180°.

12. (currently amended) The apparatus according to claim 1, wherein the ~~means for supplying~~ a single-phase AC current power supply is a continuous current, single-phase AC

current power supply means—for supplying continuous single-phase AC current.

13. (currently amended) The apparatus according to claim 4, wherein at least one of the coil supplied with a DC current and the coil supplied with an AC current is the coil supplied with continuous AC current from the single-phase AC current power supply.

14. (currently amended) The apparatus according to claim 10, wherein ~~at least one of the AC magnetic field and the~~ DC magnetic field is caused by a continuous current.